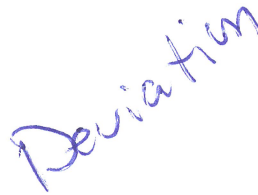


NCR-19-7400



Ship Via:

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	External Load - 1	1 pcs	8/8/19	0.00	1.00	External Load - 1			
						External Load - 2			
						External Load - 3			
110	External Load - 2 - B4B	1 pcs	8/8/19	0.00	2.00	External Load - 1 - B4B			
						External Load - 2 - B4B			
						External Load - 3 - B4B			
120	QC 5	1 pcs	8/8/19	0.00	0.00	QC 5 - 10			
						QC 5 - 12			
						QC 5 - 17			
						QC 5 - 18			
						QC 5 - 19			
						QC 5 - 22			
						QC 5 - 24			
						QC 5 - 3			
						QC 5 - 43			
						QC 5 - 49			
						QC 5 - 51			
						QC 5 - 58			
						QC 5 - 68			
						QC 5 - 9			
						QC 5 - 50			
						QC 5 - 30			
						QC 5 - 40			
						QC 5 - 61			
						QC 5 - 81			
130	Packaging 3-1 - Stock - B4B	1 pcs	8/8/19	0.00	0.00	Packaging 3 - 1 - B4B			
						Packaging 3 - 2 - B4B			
						Packaging 3 - 3 - B4B			
						Packaging 3 - 4 - B4B			
						Packaging 3 - 5 - B4B			

Container No: S205877

Part: SWA6A -- 3
Job No: 198422
Serial No/Batch: S205877
Revision: E
Inspector:
Exp Date:
Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL.: 1 513 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 08/15/19

Plex 7/29/19 8:23 AM Dart.Renwick.Jennifer

Plex 7/29/19 8:23 AM Dart.Renwick.Jennife

				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	5m13
				Packaging 3 - 8 - B4B	19/8/19
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
135	DC - 1 - B4B	1 pcs	8/8/19	0.00 0.00	DC - 1 - B4B
					DC - 2 - B4B
140	QC 21 - FG	1 pcs	8/8/19	0.00 0.00	QC 21 - FG - 21
					QC 21 - FG - 70
					QC 21 - SA - 53

Part Op 100 - Issue S/N.

Descriptions: 110 - Sheet 1 ***All assembly to be done in accordance with SWA swivel manual*** Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG. Laser engrave dart logo as per DWG. Small Fab-6 (Small Fab) - Assemble as per DWG. Sheet 1 ***All assembly to be done in accordance with SWA swivel manual*** Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG. Laser engrave dart logo as per DWG.

120 - (QC5- Inspect part completeness to step on W/O) Engrave T/N And / or S/N number as required Using Marktronic engraver as per DWG.

130 - Packaging3 (Identify as per dwg & Stock Location: _____) Bag and tag

135 - DC (Document Control) Photocopy blue file OM & OOPM-SWA6A RevG

140 - (QC21- Final Inspection - Work Order Release)

GA-ALAIN

Lactite 242 (5186572)

Lactite 620 (5194792)

Sub-T-ge (M128063)

Aeroshell grease N27 (5138964)

Part / Item	Component Name	Quantity	Operation	Container
188-FPSS-1032-1/2	Set Screw	1 Ea (1 ea)	100-External Load - 1	5037670
01121-734A5	3 Conductor 14 AWG,	6 ft (6 ea)	110-External Load - 2 - B4B	3177416
188-FSCS-1032-5/8	Flat socket cap Screw	4 Ea (4 ea)	110-External Load - 2 - B4B	3199362
C45-15-13	Bushing for SWA6A	1 Ea (1 ea)	110-External Load - 2 - B4B	3192687
D2728-1	Dart Logo Label Small	1 pcs (1 ea)	110-External Load - 2 - B4B	4139013
EL-PLUG-F	3-Prong Female Spade Plug	1 Ea (1 ea)	110-External Load - 2 - B4B	3192571
EL-PLUG-M	3-Prong Male Spade Plug	1 Ea (1 ea)	110-External Load - 2 - B4B	3192574
SWA6A-100	Lower End	1 pcs (1 ea)	110-External Load - 2 - B4B	3190922
SWA6A-1100	Upper Bearing	1 pcs (1 ea)	110-External Load - 2 - B4B	3193969
SWA6A-1200	Lower DU Bearing	1 Ea (1 ea)	110-External Load - 2 - B4B	3196410
SWA6A-1300	Lower Thrust Bearing	1 Ea (1 ea)	110-External Load - 2 - B4B	3196384
SWA6A-1400	Circlip Internal	1 Ea (1 ea)	110-External Load - 2 - B4B	3176003
SWA6A-1800	Cover	1 pcs (1 ea)	110-External Load - 2 - B4B	3159099
SWA6A-1900	1/4" Female Spade Connector	6 Ea (6 ea)	110-External Load - 2 - B4B	3192706
SWA6A-200	Upper End	1 pcs (1 ea)	110-External Load - 2 - B4B	3159506
SWA6A-300	Bearing Housing	1 pcs (1 ea)	110-External Load - 2 - B4B	3192339
SWA6A-400	Thrust Washer	1 pcs (1 ea)	110-External Load - 2 - B4B	3194935
SWA6A-500	Semi Rings	1 pcs (1 ea)	110-External Load - 2 - B4B	3172010
SWA6A-600	Collar	1 pcs (1 ea)	110-External Load - 2 - B4B	3190894
SWA6A-700F	Wire Clamp, 1/2 X 1-3/8 X 1-1/4	2 pcs (2 ea)	110-External Load - 2 - B4B	3191796
SWA6A-800B	Connector Bushing	1 pcs (1 ea)	110-External Load - 2 - B4B	3194169
SWA6A-900B	Rotary Connector - 3 wire	1 Ea (1 ea)	110-External Load - 2 - B4B	3197603

Operation	Component Part	Required	Inventory	Allocated
100-External Load - 1	188-FPSS-1032-1/2	1	47	0
110-External Load - 2 - B4B	01121-734A5	6	249	0
	188-FSCS-1032-5/8	4	164	0
	C45-15-13	1	15	0
	D2728-1	1	0	0
	EL-PLUG-F	1	25	0
	EL-PLUG-M	1	39	0
	SWA6A-100	1	19	0
	SWA6A-1100	1	16	0
	SWA6A-1200	1	27	0
	SWA6A-1300	1	20	0
	SWA6A-1400	1	37	0
	SWA6A-1800	1	17	0
	SWA6A-1900	6	166	0
	SWA6A-200	1	20	0
	SWA6A-300	1	20	0
	SWA6A-400	1	37	0
	SWA6A-500	1	20	0
	SWA6A-600	1	17	0
	SWA6A-700B	2	77	0
	SWA6A-800B	1	36	0
	SWA6A-900B	1	13	0

Specifications could not be found.

https://www.plexonline.com/2870f91a-9780-40d6-8c3f-ef5a1e444ebb/Plexus_Control/Report_Viewer_2.asp?URL=https://www.plexonline.com/2870f91... 3/3



Electric Swivel
SWA6A

Work Order 198422

Customer Order 7302

Number of Wires 3

Date 2019-8-15

Serial Number S205877

Number of Cycles	Load (Lbs.)	Action	Pass/Fail
1	6,000	Check for Conductivity against all wires.	- Pass
1	6,000	Check all wires for grounding against swivel body.	- Pass
1	3,000	Check for Conductivity against all wires.	- Pass
1	3,000	Check all wires for grounding against swivel body.	- Pass
1	1,500	Check for Conductivity against all wires.	- Pass
1	1,500	Check all wires for grounding against swivel body.	- Pass
1	0	Check for Conductivity against all wires.	- Pass
1	0	Check all wires for grounding against swivel body.	- Pass

Test Conducted By: Michel Lalonde

Technician



Signature: Sylvain Boyer
QC 5 Small FAB / QA

Work Order 198422Customer Order 7302Number of Wires 3Date 2019-8-15Serial Number S205877

Number of Cycles	Load (Lbs.)	Action	Pass/Fail
1	6,000	Check for Conductivity against all wires.	- Pass
1	6,000	Check all wires for grounding against swivel body.	- Pass
1	3,000	Check for Conductivity against all wires.	- Pass
1	3,000	Check all wires for grounding against swivel body.	- Pass
1	1,500	Check for Conductivity against all wires.	- Pass
1	1,500	Check all wires for grounding against swivel body.	- Pass
1	0	Check for Conductivity against all wires.	- Pass
1	0	Check all wires for grounding against swivel body.	- Pass

Test Conducted By: Michel Lelonde
TechnicianSignature: Sylvain Broye
QC 5 Small FAB / QA

P/N	Revision	Drawing Specified Wire	Acceptable Alternate Wire
C2	2	MIL-C-27500 11-14416	N/A
C3	2	MIL-C-27500 11-14417	N/A
C10	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C15	2	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C20	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C45	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C60	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
C250	C	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA3-2	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA3-3	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA3-4	3	EL 414-ARTIC 4/14	Texcan 01121-734A5 or 01004-08-047
SWA6A-2	E	Texcan 01121-724AM	Texcan 01121-744A5
SWA6A-3	E	Texcan 01121-734A5 or 01004-08-047	N/A
SWA6A-4	E	Texcan 01121-744A5	N/A
SWA6A-6	E	Texcan 04121-764A5	N/A
SWA6A-8	E	Texcan 12701-08-014 or McMaster 7081K38	N/A
SWA10A-2	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA10A-3	3	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA10A-4	3	EL 414 ARTIC 4/14	Texcan 01121-744A5
SWA10A-6	3	EL 616 ARTIC	Texcan 04121-764A5
SWA10A-8	3	Polar Wire 30806	Texcan 12701-08-014 or McMaster 7081K38
SWA15A-2	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA15A-3	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SWA15A-4	1	EL 414 ARTIC 4/14	Texcan 01121-744A5
SWA15A-6	1	EL 616 ARTIC	Texcan 04121-764A5
SWA15A-8	1	EL 816 ARTIC	Texcan 12701-08-014 or McMaster 7081K38
SAW25A-2	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SAW25A-3	1	3/14 SJTOW	Texcan 01121-734A5 or 01004-08-047
SAW25A-4	1	EL 414 ARTIC 4/14	Texcan 01121-744A5
SAW25A-6	1	EL 616 ARTIC	Texcan 04121-764A5
SAW25A-8	1	EL 816 ARTIC	Texcan 12701-08-014 or McMaster 7081K38

DQA:

Date:

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed:

Date:

Work Order update only ☐

Work Order: <u>198422</u>	DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. <u>SWA### Swivels</u>	Rework ☒	Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐			
NCR No. <u>19-7400</u>	Scrap ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐			
	Use-as-is ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐			
	Suspected Unapproved ☐	Large Fab ☐	Composite ☐	Supplier ☐				

Date: <u>2019/09/26</u>	Step #: <u>100</u>	QTY Effective: <u>1</u>	MRB (QSI042) Approval <u>M. Lee</u> Feb 01, 2018
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Description Work Order Deviation	Disposition	Completed By <u>A. PATRY</u> Lead hand / Supervisor Approval Verification DAS 30 9-89 OCT 31 2019 QC / QA Coordinator Approval DAS 9 9-89 19.12.20
- Use a combination of heatshrink tubing and RTV Silicone to create a watertight seal around all electrical connections. - Use a D2728-1 Placard in place of the laser engraved Dart logo	These deviations are acceptable to carry out on the following swivels: - SWA3 - SWA6A - SWA10A - SWA15A - SWA25A - PSWA25A - H440-Q280002 <u>M. Lee</u> There is no impact on fit, form or function.	

Root Cause				FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐		
Design ☒	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☒		
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	☒ Product Improvement	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	☒ Process Improvement	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	Manufacturing Process ☐						
Misidentified ☐	Past Due ☐						
OTHER :							

Entered: 24 Date: Oct 7/19

NCR No. 19-7400

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE



Route update only ☐

Job: <u>198422</u> Part No. <u>C series hooks and SWA Swivels</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☒ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042) May, 9 2019 <i>M Lee</i>	

Description Work Order Deviation	Disposition	Completed By
The electrical wires listed under "Acceptable Alternate Wire" on the attached sheet are acceptable to use in place of the "Drawing Specified Wire"	This deviation is acceptable. No change to fit form or function.	<i>M Lee</i>
	The job route must specify the wire that is called out on the drawing	Lead hand / Supervisor <i>SB</i>
	The inventory P/N must reflect the same P/N that was received from a vendor	QC / QA Coordinator

Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☒ Process Improvement ☐ Human Factors ☐	FAULT CATEGORY <table border="0"> <tr> <td>☐ Pressure/Forced</td> <td>☐ Contamination</td> <td>☐ Power Loss/Surge</td> <td>☐ Positioned Wrong</td> </tr> <tr> <td>☐ Bending</td> <td>☐ Misaligned/off center</td> <td>☐ Folio/Program</td> <td>☐ Outside Tolerance</td> </tr> <tr> <td>☐ Crushing</td> <td>☐ BOM/Route</td> <td>☐ Grain Direction</td> <td>☐ Drawing</td> </tr> <tr> <td>☐ Cracks</td> <td>☐ Broken/Damage/Defect</td> <td>☐ Weld</td> <td>☐ Finish</td> </tr> <tr> <td>☐ Crimp/Kink/Ripple/Wave/Twist</td> <td>☐ Incomplete/Unclear Instructions</td> <td>☐ Wrong Stock Pulled</td> <td>☐ Part Lost/Missing</td> </tr> <tr> <td>☐ Marks/Chatter</td> <td>☐ Drill Holes</td> <td>☐ Out of Sequence</td> <td>☐ Misread</td> </tr> <tr> <td>☐ Mislabeled</td> <td>☐ Fit/Function</td> <td>☐ Off-set/Set-up</td> <td></td> </tr> </table>	☐ Pressure/Forced	☐ Contamination	☐ Power Loss/Surge	☐ Positioned Wrong	☐ Bending	☐ Misaligned/off center	☐ Folio/Program	☐ Outside Tolerance	☐ Crushing	☐ BOM/Route	☐ Grain Direction	☐ Drawing	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Finish	☐ Crimp/Kink/Ripple/Wave/Twist	☐ Incomplete/Unclear Instructions	☐ Wrong Stock Pulled	☐ Part Lost/Missing	☐ Marks/Chatter	☐ Drill Holes	☐ Out of Sequence	☐ Misread	☐ Mislabeled	☐ Fit/Function	☐ Off-set/Set-up	
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